

GTCAATATGCTGTTCAAGTCATGGCAACTGGCAGCAGCCTCCGGCTCCTGCTGGAGTC MetLeuPheLysSerTrpGlnLeuAlaAlaAlaSerGlyLeuLeuSerGlyVa	60 18
CTCGGATCCCGATGGACACCGGCAGCCACCCATTGAGGCTGTTGATCCCGAAGTGAAG 1LeuGlyIleProMetAspThrGlySerHisProIleGluAlaValAspProGluValLy	120 38
ACTGAGGTCTTCGCTGACTCCCTCCCTGCGAGCAGGCGATGACGACTGGGAGTCACCT sThrGluValPheAlaAspSerLeuLeuAlaAlaGlyAspAspAspTrpGluSerPr	180 58
CCATACAATTGCTTACAGGAATGCCCTGCAATTCCACCTGTCAGCAGGCCAAAGATG oProTyrAsnLeuLeuTyrArgAsnAlaLeuProIleProProValLysGlnProLysMe	240 78
ATCATTACCAACCTGTCACCGGCAAGGACATTGGTACTATGAGATCGAGATCAAGCCA tIleThrAsnProValThrGlyLysAspIleTrpTyrGluIleGluIleLysPr	300 98
TTTCAGCAAAGGATTACCCCCACCTTGGCCCTGCGCCTGACTCTGTCGGCTACGGATGGCATG oPheGlnGlnArgIleTyrProThrLeuArgProAlaThrLeuValGlyTyrAspGlyMe	360 118
AGCCCTGGCTACTTCAATGTTCCAGAGGAACAGAGACTGTAGTTAGGTTCATCAAC tSerProGlyProThrPheAsnValProArgGlyThrGluThrValValArgPheIleAs	420 138
AATGCCACCGTGGAGAACCTGGTCCATCTGGCACGGCTCCCCATCGGTGCCCCCTTCGAT nAsnAlaThrValGluAsnSerValHisLeuHisGlySerProSerArgAlaProPheAs	480 158
GGTTGGGCTGAAGATGTGACCTTCCCTGGCGAGTACAAGGATTACTACTTTCCAACATAC pGlyTrpAlaGluAspValThrPheProGlyGluTyrLysAspTyrTyrPheProAsnTy	540 178
CAATCCGCCCTCTGGTACCATGACCACGGCTTCATGAAGACTGCTGAGATGCC rGlnSerAlaArgLeuLeuTrpTyrHisAspHisAlaPheMetLysThrAlaGluAsnAl	600 198
TACTTGGTCAGGCTGGCGCCTACATTATCAACGACGAGGATGCTCTCGGCTCT aTyrPheGlyGlnAlaGlyAlaTyrIleIleAsnAspGluAlaGluAspAlaLeuGlyLe	660 218
CCTAGTGGCTATGGCAGGTTGCGATATCCCTGATGCTGACGGCCAAGTACTATAACGCC uProSerGlyTyrGlyGluPheAspIleProLeuIleLeuThrAlaLysTyrTyrAsnAl	720 238
GATGGTACCCCTGCGTTCGACCGAGGGTGAGGACCGAGGACCTGTTGGGAGATGTCATCCAT aAspGlyThrLeuArgSerThrGluGlyGluAspGlnAspLeuTrpGlyAspValIleHi	780 258
GTCAACGGACAGCCATGGCTTCCCTAACGTCAGGCCCGCAAGTACCGTTCCGATT sValAsnGlyGlnProTrpProPheLeuAsnValGlnProArgLysTyrArgPheArgPh	840 278
CTCAACGCTGCCGTGCTCGTGTGGCTCCTACCTCGTCAGGACCAGCTCTCCAAAC eLeuAsnAlaAlaValSerArgAlaTrpLeuLeuTyrLeuValArgThrSerSerProAs	900 298
GTCAGAAATCCCTTCCAAGTCATTGCCCTGATGCTGGTCTCCCTCAAGCCCCCGTCAG nValArgIleProPheGlnValIleAlaSerAspAlaGlyLeuLeuGlnAlaProValG	960 318
ACCTCTAACCTCTACCTTGCTGTTGGCGAGCGTTACGAGATCATTGACTTCACCAAC nThrSerAsnLeuTyrLeuAlaValAlaGluArgTyrGluIleIleAspPheThrAs	1020 338
TTTGCTGGCCAGACTCTTGACCTGCGCAACGTTGCTGAGACCAAGCAGTCGGCGACGAG nPheAlaGlyGlnThrLeuAspLeuArgAsnValAlaGluThrAsnAspValGlyAspG	1080 358
GATGAGTACGCTGCCACTCTCGAGGTGATGCGCTTCGTCAGCTCTGGCACTGTTGAG uAspGluTyrAlaArgThrLeuGluValMetArgPheValValSerSerGlyThrValG	1140 378

GACACAGCCAGGCCCCCTCCACTCTCCGTGACGTTCCCTTCCCTCACAAGGAAGGC	1200
uAspAsnSerGlnValProSerThrLeuArgAspValProPheProProHisLysGluG1	398
CCCGCGACAAGCACTTCAAGGTTGAACGCAGCAACGGACACTACCTGTATCAACGATGTT	1260
yProAlaAspLysHisPheLysPheGluArgSerAsnGlyHisTyrLeuIleAsnAspVa	418
GGCTTGCGCATGTCATGAGCGTGTCTGGCCAAGGCCAGGCTCGGCACCGTTGAGGTC	1320
1GlyPheAlaAspValAsnGluArgValLeuAlaLysProGluLeuGlyThrValGluVa	438
TGGGAGCTCGAGAACTCCCTCTGGAGGCTGGAGGCCACCCCGTCCACATTCACCTTGTGAC	1380
1TrpGluLeuGluAsnSerSerGlyGlyTrpSerHisProValHisIleHisLeuValAs	458
TTCAAGATCTTCAAGCGAACCTGGTGGTGTGGCCAGGTCTAGGCCCTACGAGTCGCTGGT	1440
pPheLysIleLeuLysArgThrGlyGlyArgGlyGlnValMetProTyrGluSerAlaG1	478
CTTAAGGATTCGCTCTGGGGCAGGGGTGAGACCCCTGACCACATCGAGGCCACTACCAA	1500
yLeuLysAspValValTrpLeuGlyArgGlyGluThrLeuThrIleGluAlaHisTyrG1	498
CCCTGGACTGGAGCTTACATGTGGCACTGTACACCTCATTCACGAGGATAACGACATG	1560
nProTrpThrGlyAlaTyrMetTrpHisCysHisAsnLeuIleHisGluAspAsnAspMe	518
ATGGCTGTATTCAACGTACCGCCATGGAGGAGAAGGGATATCTCAGGAGGACTTCGAG	1620
tMetAlaValPheAsnValThrAlaMetGluGluLysGlyTyrLeuGlnGluAspPheG1	538
GACCCCATGAACCCCCAACTGGGGCGCGCGTCTTACAAACCGCAACGACTTCCATGCTCGC	1680
uAspProMetAsnProLysTrpArgAlaValProTyrAsnArgAsnAspPheHisAlaAr	558
GCTGGAAAATCTCCGCCAGGTCATCACTGGCCGAGTGCAGGAGACTGGCCGAGCAGGAG	1740
gAlaGlyAsnPheSerAlaGluSerIleThrAlaArgValGlnGluLeuAlaGluGlnG1	578
CGCTACAAACGCCGATGAGATCTGGAGGATCTTGGAAATCTGGAGGACTGGAGGACTAA	1791
uProTyrAsnArgLeuAspGluIleLeuGluAspLeuGlyIleGluGlu	594

FIG. - 1B

CTGGCTAGCC	TCACCTTGGTA	GACAGCCCTG	ACAGCCTCAC	TGGCTGGGG	TGCAAAGGCC	60
AGTCATATC	TTGGTCAGT	CTAATAGTT	CTTGTCTACG	GCAAAAGCT	CCTGGCGAA	120
GGGGCACAGA	CTATCAAGT	AGACATATAG	GATGCGATGTC	TTTCATAGCC	ACAGTTAGGG	180
TGGTACCTCA	CTCGAAGGG	CCCGACTTC	CATGCATACG	ACATGTCGCT	TCCATGCAAC	240
ATGATGCGC	ACATCCGGCA	TCAGGACACC	TCTGCGATGCA	GAATAGAAC	CCCTGGGTT	300
CCTTTTGTGTT	CTTTTCTTT	CTCAACGAGC	CGTGGAGCGTG	GTAACTTGA	GCAAGGGCGA	360
GTGGTCTGTT	CACGAGGTT	CCATCGAAT	CTCTTCTTC	CCATCATGTA	CCTGCCCCCC	420
GAGTTAGCC	CCCATCACGG	CTGTGAAATC	CACTTCGATA	ATCTTAGGCT	AGTGTACTC	480
TTCAAGTGT	GCTCTGTAG	GGGGCATTTTC	GTCACTTGG	CTTGGTTTCT	CCTACCTCGT	540
TCTCTCCCG	ATCAAGCCTC	ATGGCCGAC	GACAAACACTC	CATTGGCGG	GACACATTG	600
AGCGGCCAG	CACCTTCGCG	CCGAAGGGAT	TGAAACACCT	CTTCACCCCT	GCCCAATGT	660
GGAGTTTGG	TCTATTGTC	ATGATCACCT	CAACATCACT	AGATCACGGA	TCTGGAGAA	720
GGGTGTTGAA	GCCAGGACG	CTTGTCCCTG	TTCTTGAGA	CTCAGGTAG	CTCTAGCGG	780
CTATCACAGC	TCAGGATTAT	CAAGTCCCG	AAAGTCGCA	CCCTTTTCA	TGTATGATGC	840
TGCTTATT	GGCGTATCTC	TAATGGCTAG	CACCCGGCTT	GGCTACAACT	GGCTCCATG	900
GCTGAAGGT	CGTGGAGATCT	ATAAAGGTT	CCGAATCTCC	GGTGAAGTCA	GAATGTC	960
TCCACACAG	TCACAAACAA	GCTCTTCTTC	CTTACAGCTT	AGCTTGAGCA	CATTACAGCA	1020
ACTCTCCCT	TCTTTTCGTC	AAATATGCTG	TCAAGTCATG	GCAACTGGCA	GCAGCCTCCG	1080
GGCTCTCGT	TGGAGTCCTC	GGCATCCCG	TGGACACCCG	CAGGGACACCC	ATTGAGGTG	1140
TTGATCCCGA	ATGTAAGACT	GAGGTCTTCG	CTGACTCCCC	CCTGCTGCA	GCAGGCGATG	1200
ACGAGTGGGA	GTCACCTCCA	TACAATTG	TTTACAGGTT	AGACACCTGT	CCCACTGT	1260
TTCCCTCGAT	AACTAATCT	TATAGGAATG	CCCTGGCAAT	TCCACCTGTC	AAGGACGCCA	1320
AGATGATGAT	CTTGGATTGT	CTACAGGAGCA	ACTCGGCCCC	GACTAATGTA	TTC TAGGATC	1380
ATTACCAAC	CTGTCACCGG	CAAGGACATT	TGGTACATG	AGATGAGAT	CAAGCATT	1440
CAGCAAAAGG	TGAGTTTGT	CGAAAGACCT	GTGTTAATTA	ATCATTTGTA	CTGACCCCTT	1500
CAGATTTACC	CCACCTTGG	CCCTGGCCAT	CTGTCGGCA	ACGATGGCT	GAGGCGCTGGT	1560
CCTACTTCA	ATGTTCCCG	AGGAACAGAG	ACTGTTAGTA	GGTTTCATCAA	CAATGCCACC	1620
GTGGGAAGCT	CGGTTCCATCT	GCACGGCTCC	CCATCGGCTG	CCCTTTTCA	TGGTGGGGCT	1680
GAAGATGTGA	CCTTCCCTGG	CGAGTAAACG	GATTACTACT	TTCCCAACTA	CAATCCGCC	1740
CGCCTCTGT	GGTACCTAG	CCACGCTTC	ATGAAGGTT	GTCAGGACG	TTTATCTTTC	1800
TTGGTACCT	TTGGTACCA	AACTCTTCC	CGTGAAGTGC	TGGAATGTC	TACTTGTGTC	1860
AGGCTGGCG	TCATACATTC	AAACGAGGAG	CTGAGGATGC	TCTGGTTCTT	CCTAGTGGCT	1920
ATGGGAGGT	CGATATCCCT	CTGAGCTTC	CGGGCAAGTA	CTTAAACGCG	GATGGTACCC	1980
TGCGTGTGAC	CGAGGGTAG	GACCGAGGAC	TGTGGGGAGA	TGTATCATCAT	GTCAACGGAC	2040
AGCCATGGCC	TTCTCTTAA	GTCCAGCCCC	GCAAGTACCG	TTCCGATT	CTCAACGCTG	2100
CCGTCGCTCG	TGCTTGGCTC	CTCTACCTTC	TCAGGACCC	TCTCCCAAC	GTCAAGAATT	2160
CTTCTCCAAAGT	CATTCCTCT	GTGTCGGTC	TCTCTAACGG	CCCGCTTCAG	ACCTCTAAC	2220
TCTCTCTTCG	TGTTGGCGAG	CGTTACAGGA	TCTATTGTT	TATGCCCTTC	CCTCTCAGGA	2280
ATGACTCAAG	AACCTAAAGA	CTAACACATTG	TAAGACTTCAC	CAACTTTGCT	GGCCAGACTC	2340
TTGACCTGG	CAACGTTGCT	GAGACCAACG	ATGTCGGCGA	CGAGGGATGAG	TACGCTCGCA	2400
CTCTCGAGGT	GATGCGCTTC	GTGTCAGCT	CTGGCAGCT	TGAGGACAAC	AGCAGGFTCC	2460
CCTCCACTCT	CGGTGAGCTT	CCTTCTCTC	CTACAAAGGA	AGGGCCGCC	GACAAAGACT	2520
TCAAGTTGA	ACGGCACAA	GGACACACTT	TGATCAACG	TGTGGGTTT	GGCATGTC	2580
ATGAGCTGT	CTGGCGAAC	CCGGAGCTCG	CAACCTGGTA	GGTGGGGAG	CTCGAGAAC	2640
CCTCTGGAGG	CTGGGCCAAC	CCGGTCCACA	TTCACCTTGT	TGAGCTTCAG	ATCTCTAACG	2700
GAACTGGTGG	TGCTGGCCAG	GTCTACCCCT	ACGAGTCTGC	TGGTCTTAAG	GATGTCGTC	2760
GGTTGGGAG	GGGTGAGACC	CTGACCATCG	AGGGCCACTA	CCACCCCTGG	ACTGGAGCTT	2820
ACATGTCGA	CTGTACACAA	CTTCATCCAC	AGGATAACG	CATGATGGCT	GTATCAACG	2880
TCACCCCAT	GGAGGGAGAA	GGATATCTTC	AGGGAGACTT	CGAGGGACCC	ATGACCCAGA	2940
AGTGGCGCCGC	GTTCCTTAC	AACCGAACAG	ACTTCCATGC	TGCGGCTGGA	AACTCTCCG	3000
CCGACTCAT	CACTGCGCG	GTGCAAGGAGC	TGCGGCCAGA	GGAGCCGTAC	AACCCCTCG	3060
ATGAGATCCT	GGAGGATCTT	GGAAATCGAGG	AGTAAACCCC	GAGCCACAA	CTCTACAA	3120
GTTTGAGTC	TAAAGACGAG	GCTCTTGGGT	CGTATTCTTT	TCTCTCCCTAC	GGGGAACTCC	3180
GCTGTCACT	CGCAGTGTGA	GGACCATCAC	AAAGCAAGT	ATATATTGGA	CTACCAACTG	3240
TCATTAFCGG	CCACTTGTGA	CTATTGCTT	CTTGTCTCAA	CTTATTCTAGT	GGCGAGAGT	3300
CCATAGTCAA	GAACAGCCCA	TAGGGCTATC	GTCTAACTG	AACATTATTG	TGGCTGTGTA	3360
CGTGGAGTAG	ATGTCATGT	TGATGAGACA	CACTAAATAC	GGTATATCTT	TTCTCAGGAC	3420
TACAGGATCA	GTTCCTCATG	AGATACATC	CGTCATATG	TGTCCTATGA	GAGTCAGT	3480
AAGGTTGAGA	ATGCACTAGA	CGGAACTATT	TGATGCTCTC	AGCTCGATT	ACCGATGTAA	3540
GACAGTTAG	GTAAAGTGT	TGTTATCCG	AAATGACTCA	GGGCTCCCTCA	TTAGGTTGCA	3600
TGTGAAACAC	TTTCAGCAACT	CATGGGTGTT	GGGACCAAAAT	CATCCATACC	TGATTGTTGAT	3660
AACTGACCTG	GGTCAAT					3677

1MFKHTLGAALSLLFNSNAVQA.SPVPETSPATGHLFKRV	39
1	MLFKSWQLAASGLLSGVLGIPMDTGSHPTEAVDPEVKTEVFADSLAAA	50
40	AQISPQYPMFTV....PLPIPPVKQPRLTVTNPVNGQEYIWWYEIKPFT	85
51	GDDDWESPYNLLYRNALPIPVKQPKMIITNPVTKGDIWYYEIKPFTQ	100
86	HQVVPDLGSADLVGYDGMSPGPTFQVPRGVETVVRFINNAEAPNSVHLHG	135
101	QRIYPTLRPATLVGYDGMSPGPTFVNPVPRGTETVVRFINNATVENSVHLHG	150
136	SFSRAAFDGAEDITEPGFSFKDYYYYPNRQSARTLWYDHAMHITAENAYR	185
151	SPSRAPFDGAEDVTFPGEYKDYYFPNQYSARLLWYDHAFMKAENAYF	200
186	GQAGLYMLTDAEDALNLPGSGYGEFDIPMIILTSKQYTANGNLVTTNGELN	235
201	GQAGAYIINDEAEDALGLPGSFGYGEFDIPLILTAKYNNADGTLRSTEDEDQ	250
236	SFWGDVIVHNVGQPWPFFKNVEPRKYRFRFLDAAVSRSGFLYFADTDAIDTR	285
251	DLWGDVIVHNVGQPWPFLNVQPRKYRFRFLNAAVSRRAWLLYLVRTSSPNVR	300
286	LPKFVIAISDAGLLEHPADTSLLYISMAERYEVVFDFSDYAGKTIELRNGL	335
301	IPFQVIASDAGLLQAPVQTSLNLYLAVAERYEIIDFTNFAGQTLDLRRNV.	349
336	GSIGGIGTDTDYDNTDKVMRFFVVADDTTQPDTSVVPANLRDVPPSPPTTN	385
350	AETNDVGDDEDEYARTLEVMRFFVVSSGTVE.DNSQVPSTLRDVPPSPHKEG	398
386	.TPRQFRFGRTPWTINGVAFAVDVQNRLLANVPVGTVERWELINAGNGW	434
399	PADKHFKERSNGHYLINDVGFADVNERVLAKPELGTVEVWELENSSGGW	448
435	THPIIHILVDFKVISRTSGNNARTVMPYES.GLKDVVWLGRRETVVVEAH	483
449	SHPVHIHLVDFKILKRTGGRG..QVMPYESAGLKDVVWLGRGETLTIEAH	496
484	YAPFPGVYMFHCHNLIHEDHDMMAAFNATVLPDYGYNATVFVDPMEELWQ	533
497	YQPWIGAYMWHCHNLIHEDNDMMAVFNVTAMEEKGYLQEDFEDPMNPWKW	546
534	ARPYELGEFAQSGQFSVQAVTERIQTMAEYRPyAAADE.....	572
547	AVPYNRNDFHARAGNFSAESITARVQELAEQEPYNRLDEILEDLGIEE	594

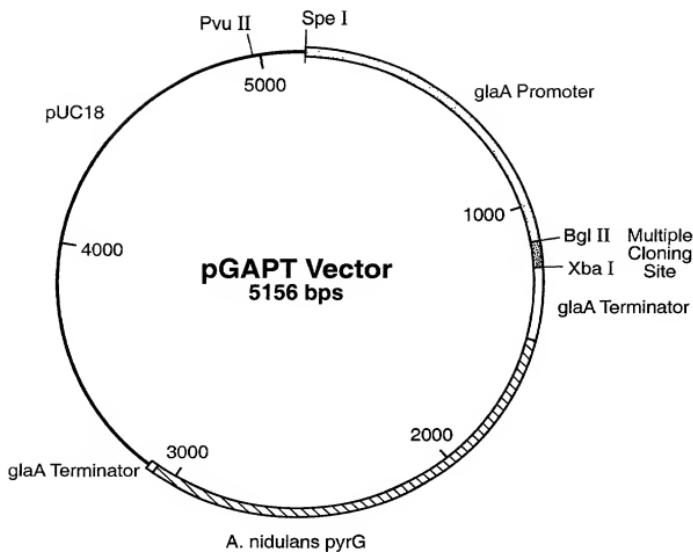


FIG._4

AGATCTAATA TGCTGTTCAA GTCATGGCAA CTGGCAGCAG CCTCCGGGCT CCTGTCTGGA 60
GTCCCTGGCA TCCCCATGGA CACCCGAGC CACCCCATG AGGCTGTTGA TCCCGAAGTG 120
AAGACTGAGG TCTTCGCTGA CTCCCCCTT GCTGCAGCAG GCGATGACAG CTGGGAGTCA 180
CCTCCATACA ACTTGCTTTA CAGGTGAGAC ACCGTGTCCTA CCTGTTTCC CTCGATAACT 240
AACTCTTATA GGAATGCCCT GCCAATTCCA CCTGTCAAGC AGCCCAAGAT GTATGTCTTT 300
GATTTCTAC GAAGCAACTC GGCCCGACT AATGATTTCT AGGATCATTA CCAACCTGT 360
CACCGGCAAG GACATTGGT ACTATGAGAT CGAGATCAAG CCATTTCAAG AAAGGGTGG 420
TTTGTCTAGA AACCTTGTGG TAATTATCA TTGTTACTGA CCCTTTCAAG TTTACCCCG 480
CTTGGCCCTT GGCACCTCTCG TCGGCTACGA TGGCATGAGC CCTGGTCCCTA CTTCAATGT 540
TCCCAGAGGA ACAGAGACTG TAGTTAGTT CATACAAAT GGCACCGTGG AGAACCTCGGT 600
CCATCTGCA C GGCTCCCCAT CGCGTGCCCC TTTCGATGGT TGGGCTGAAG ATGTGACCTT 660
CCCTGGCAG TACAAGGATT ACTACTTTCC CAACTACCAA TCCGCCGCC TTCTGTGGTA 720
CCATGACCCAG GCTTTCATGA AGGTATGCTA CGAGGCTTTA TCTTTCTTGG CTACCTTTGG 780
CTAACCAACT TCCTTCGTA GACTGCTGAG AATGCTACT TTGTCAGGC TGGGCCCTAC 840
ATTATCAACG ACGAGGCTGA GGATGCTCTC GGTCTCTTA GTGGCTATGG CGAGTTCGAT 900
ATCCCCCTGA TCTCTGAGGC CAAAGTATAC AACCCGATG TGACCCCTGG TTGAGGCGAG 960
GGTGAGGACC AGGACCTGTG GGGAGATGTC ATCCATGTC ACGGACAGCC ATGGCCTTTC 1020
CTTAACGTCC AGCCCCGCAA GTACCGTTT CGATTCCTCA ACGCTGCGGT GTCTCGTGCT 1080
TGGCTCTCT ACCTCGCTCG GACCACTCTC CCCAACGCTCA GAATCCCTT CCAAGTCATT 1140
GCCTCTGATG CTGGTCTCTC TCAAGCCCCG TTGTCAGACT CTACCTCTA CCTTGCTGT 1200
GCCGAGCGTT AGGAGATCAT TATTGGTATC CCCTCCCCTC TCACCAATGA GTCAAGAAC 1260
CTAACGACTAA CACTTTGAGA CTTCAACCAAC TTGCTGGCC AGACTCTTGA CCTCGCGAAC 1320
GTTGCTGAGA CCAACGATGT CGGGGACGAG GATGAGTAGC CTCCGACTCT CGAGGTGATG 1380
CGCTTCTGTCG TCAGCTCTGG CACTGTTGAG GACAACAGCC AGGTCCCCCTC CACTCTCCGT 1440
GACGTTCCCTT TCCCTCTCA CAAGGAAGGC CCCGGCGACCA AGCACCTCAA GTTTGAACGC 1500
AGCAACGGAC ACTACCTGAT CAAAGATGTT GGCTTGGCCG ATGTCATGA GCGTGTCTG 1560
GCCAAGCCCG AGCTCGGCAC CGTTGGAGGTG TGGGAGCTCG AGAACCTCTC TGGAGGCTGG 1620
AGGCCACCCCG TCCACATTCA CCTTGCTGAC TTCAAGATTC TCACAGCAAC TGGTGCTGT 1680
GGCCAGGTCA TGCCCTACGA GTCTGCTGGT CTAAAGGATG TGCTCTGGT GGGCAGGGGT 1740
GAGACCCCTGA CCATCGAGGC CCACTACCAA CCCTGGACTG GAGCTTACAT GTGGCACTGT 1800
CACACCTCA TTCACGGAGGA TAACGACATG ATGGCTGTAT TCACGTCAC CGCATGGAG 1860
GAGAAGGGAT ATCTTCAGGA GGACTTCGAG GACCCCATGA ACCCCAAGTG GCGGCCGTT 1920
CCTTACAAAC GCAACGACTT CCATGCTCGC GCTGAAACT TCTCCGCGA GTCCATCACT 1980
GCCCGAGTGC AGGACCTGGC CGAGCAGGAG CGTACAACC GCCTGATGA GATCCATGGAG 2040
GATCTTGAA TCGAGGAGTA GTCTAGA 2067

FIG._5

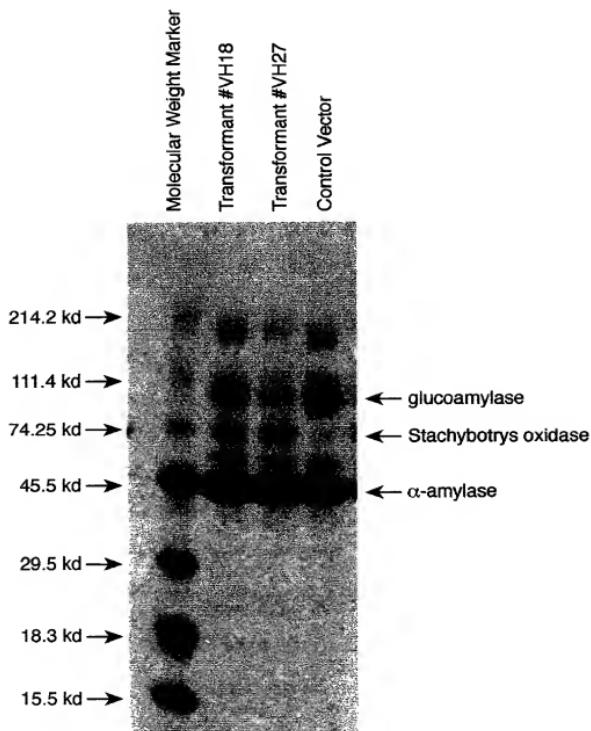


FIG.-6